UNIV. OF
WISCONSIN

November 20, 1947.

Dr. Ralph G. Meader,
Jane Coffin Childs Fund,
Yale University Medical School,
New Haven, Connecticut.

Dear Dr. Meader,

You probably know the general background of my appointment in this department. The University is remodelling the building, or rather a large room on the second storey to make quarters for a laboratory for research in the genetics of microorganisms, and it has come forth with substantial sums of money for the purchase of equipment and supplies and hiring extra help. While the definitive lab. is being built, I am working in temporary quarters, in a room that was formerly a pigeon coop; but it is suitable enough for present needs and conditions. The delivery situation being what it is, orders placed now for furniture and major items of equipment will be filled between 8-14 mos. from date.

The inflation of prices has wreaked havoc with the budget which the university had approved so that it is now deficient in the order of $1000 if the laboratory is to be equipped as it should. The laws of the State do not permit me to solicit actively for funds to meet this deficit, but they do not interfere with my description of a situation with which you may or may not be sympathetic.

I am working here along two lines primarily. Firstly, in long-distance collaboration with Dr. Tatum, we are trying to confirm reports of genetic transformations in E. coli, using biochemical mutants and nucleic acid extracts of wild type in an effort to convert the former to the latter. Some last minute experiments I did at Yale in this respect were very encouraging indeed. A third partner in this collaboration is Dr. A. Boivin from Strasbourg, France, who first described transformations of antigenic type in the strains with which we are working.

Secondly, a projected study of the more intimate relations of gene to enzyme in E. coli K-12, using the recently discovered "sexual" phase of this organism for the genetic analysis. The first point of attack is the test of the validity of the so-called

"one-to-one" hypothesis which came out of the Neurospora work. For this study, I am using the carbohydrases, comparing specificities on natural disaccharides and on synthetic glucosides with which some of my colleagues in Biochemistry are helping me, very cordially.

Recently, some very suggestive data has come up indicating that to make an enzyme splitting b-phenyl galactoside, Coli must have intact a gene for making lactase (4-glucose b galactoside), and, in addition, mutate further. Whether the lactase gene mutates further, or another gene mutates so as to modify lactase into a phenyl-galactosidase I cannot yet say, but should be able to when crossing tests are completed. While this information is highly preliminary, I am submitting it to suggest the nature of the project.

This informal letter is written with the knowledge of our departmental chairman, Dr. Brink. However, we cannot make formal application unless your willingness to entertain it is first proferred.

Mrs. Lederberg and I find the atmosphere very refreshing. Although the weather is cold, the human population is not, and we are and hope to remain very happy here.

Best regards,

Yours sincerely,

Joshua Lederberg.